

CLAIMS

What is claimed is:

- 1 1. A stepping motor, comprising:
 - 2 a stator blade made of soft magnetic materials and a permanent magnet rotor
 - 3 having a rotor axis and being accommodated within a rotor hole located at a center
 - 4 position of the stator blade,
 - 5 wherein the stator blade incorporates three narrow grooves therein, each of
 - 6 which is disposed a angle of 120° to one another along radial direction of the rotor, two
 - 7 ends of the narrow grooves being connected with the stator blade such that when a
 - 8 current is present in coils disposed along two sides of the stator blade a magnetic-pole
 - 9 end surface surrounding the rotor hole is formed by a part of the stepping motor
 - 10 between two of the narrow grooves in the stator blade
- 1 2. The stepping motor of claim 1, wherein the rotor hole has a vertical cross-section
 - 2 of a concentric circle with the rotor and the distance from each end of each of the
 - 3 narrow grooves to a center of the rotor axis is equal.
- 1 3. The stepping motor of claim 1, wherein the rotor hole has a vertical cross-section
 - 2 approximating a circle but for straight-line sections, each of which is perpendicular to a
 - 3 diameter of the rotor, disposed about the rotor hole in positions proximate front-end
 - 4 locations of the narrow grooves in the stator blade.